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1 Introduction

This document is a Quality Assurance Surveillance Plan (QASP) for the TCE Program. This QASP is designed to be a stand-alone document, providing general guidance and instructions to Government contract administrators and quality assurance evaluators (QAEs). The intent of the document is to facilitate monitoring of the TCE Contract and reporting on the Contractor's performance.

1.1 Background

TCE is a performance-based contract for managed telecommunications services. The TCE Contract has multiple performance measures, which will be used to assess the Contractor, as well as balanced scorecard mechanisms for aggregating scores from those performance measures. This QASP references predefined performance measures and measurement mechanisms from the contract. It also describes the recommended surveillance tasks that the Government will use to record and report them.

1.2 Roles and Responsibilities

In a performance-based contracting environment, roles for both the Government and Contractor staff will evolve to include quality assurance, performance monitoring, and service validation.

1.2.1 Government Roles and Responsibilities

Using methods such as random sampling, customer surveys, and independent verification and validation (IV&V), the Government will assess the Contractor's performance and ensure that Contractor and network performance meet the required service level agreements (SLAs). The Government will perform oversight and monitoring at three levels: the TCE Program Management Office, the IRS Procurement Office, and the Bureau. This three-tiered approach will ensure that Contractor performance and service delivery receive high and constant visibility with Government stakeholders.

1.2.1.1 Program Management Office

The Government's Contracting Officer (CO) will have overall responsibility for the administration of the TCE Contract. The CO will act on behalf of the Government to amend, modify, or deviate from the contract. The CO may delegate certain specific responsibilities to an authorized representative, the Contracting Officer's Technical Representative (COTR). In particular, the COTR will assume responsibility for the administration of technical details within the scope of the contract. The COTR is also responsible for the final inspection and acceptance of all plans and reports.

The Program Manager will serve as the principal technical representative for the Government and will have overall responsibility for the TCE Program.

1.2.1.2 Individual Bureaus

Each Bureau will have a single Designated Agency Representative (DAR). The DAR will be responsible for the service order requirements of its respective Bureau. The DAR will also be responsible for issuing service orders and for inspecting and accepting the services offered by the Contractor.

1.2.2 Contractor Roles and Responsibilities

The Contractor will be responsible for completing all work as required by the TCE Contract, in addition to work specified in a particular service order, under the oversight of the Bureau DAR. The Contractor is also required to self-report on its performance and the performance of the TCE network. To complement Government oversight, the Contractor is expected to provide additional oversight necessary to ensure acceptable levels of Contractor and system performance as described in the Contractor's Quality Control Plan.

The Contractor is also expected to continually evaluate its performance and results of daily, weekly, monthly, quarterly, or annual surveillance or assessments. In response to negative outcomes from such evaluations, the Contractor is encouraged to initiate performance improvement plans.

2 Principles, Guidelines, and Instructions to QAEs

2.1 Use the QASP as a Flexible Guide

The primary purpose of this document is to provide guidance to Government evaluators who support the ongoing administration of the TCE Contract. However, discretion is given to those administering the contract. The QASP is a series of recommended activities that contract administrators may approach with flexibility. Contract administrators may change and adapt it where they deem appropriate. Accordingly, this QASP also documents change control principles and guidelines.

2.2 General Principles

QAEs may want to refer to the principles below to support their flexible adaptations for ongoing contract administration activities:

- Implement Government measurements where appropriate; otherwise have the Contractor implement measurements with Government verification.
- Implement automated measurement and verification mechanisms where appropriate; otherwise implement manual ones.
- Design systems that maximize the accuracy and reliability of performance measures.
- Design systems that minimize the workload associated with contract administration.
- Use best judgment to balance the factors above.

2.3 Inspection Guidelines

In general:

- The QAE should verify, through inspections, any performance measure based on a Contractor measurement.
- Where there are too many occurrences of a measure to verify the whole performance measure calculation, the QAE should select individual occurrences at random, inspect them, and verify the Contractor reports of those selected individual measurements.
- Where there are errors in the Contractor's reporting of a performance measure, the QAE should use the documented inspections as a tool to have the Contractor fix the reporting.
- If the Contractor declines to correct inaccurate or unreliable performance measure reporting, the QAE should request the COTR and CO to adjust the performance measure manually, and document the adjustment process.
- The QAE should focus inspections on verifying performance measures which are, in approximate order of importance:

1. More heavily weighted than others
2. Subjective or non-automated
3. Likely to be controversial or contested

- If Contractor automated reporting is found to be consistently accurate over time, QAEs should consider decreasing or even eliminating manual inspections.
- If a performance measure is based on a small number of events or occurrences, QAEs should consider calculating all of the occurrences for the performance measure manually (i.e., entering all the data into spreadsheets such as those in Appendices A and B).

2.4 Summary Overview of Quality Assurance Activities

Although the full QASP should be used as a reference, QAEs should refer to Appendices A and B as samples for the primary data collection, calculation, and reporting tools for use on a daily basis. Each appendix is comprised of performance measures with their associated definitions, the SLAs, and suggested spreadsheets to record and calculate the inspections and verify performance measures. The appendices also describe the recommended QAE activities to support the contract administration function.

3 TCE Scorecards and Performance Measures

The TCE Contract utilizes two scorecards to evaluate Contractor performance. The first scorecard comprises a list of well-defined, objective performance measures that are assessed and calculated monthly. The second scorecard comprises a 12-month average of the monthly scorecard, plus an annual performance survey that will be assessed and compiled each year.

Tables 1 and 2 below define monthly and annual scorecard performance measures. Additionally, the tables provide measurement instructions, SLAs, and performance expectations and thresholds for each performance measure.

3.1 Monthly Scorecard and Performance Measures

Table 1 depicts the monthly scorecard and performance measures.

Table 1: Monthly Scorecard Performance Measures

Performance Measure	Definition and/or Calculation	Measurement Instructions	SLA	Threshold
Circuit Disconnection Notification	The % of time that the Contractor alerts the Government POC of impending circuit disconnection, at least 5 days before actual disconnection.	The Contractor shall maintain documentation showing the date of written notification, by the Contractor, of impending circuit disconnections together with actual disconnection date. QAEs can report these records in a spreadsheet such as the one in Appendix A. Recommended Method: 100% Inspection	The Contractor shall notify the Government POC 5 business days prior to disconnection of any circuit, 100% of the time.	Meets: ≤ 5 days, 100% of time Unsat: < 100% of time
Service Capacity Installation/ Upgrade Time	The % of time that the Contractor gets effective operational acceptance of capacity upgrades from the Government POC following the time the request was submitted for a given site. This should be within the 30- or 90-calendar-day deadline.	The Contractor shall maintain documentation showing the dates of written requests for capacity upgrades, as well as the dates of effective acceptance of those upgrades. QAEs can report these records in a spreadsheet such as the one in Appendix A. Recommended Method: Periodic Inspection	The contractor shall maintain the following timeframe for service capacity installation and upgrades: • Service capacity upgrades of ≤ T1 or multiple T1s within 30 calendar days, 90% of the time. • Service capacity upgrades of ≥ DS3 within 90 calendar days, 80% of the time	Meets: ≥ 90% of time Unsat: < 90% of time Meets: ≥ 80% of time Unsat: < 80% of time
Scheduled Installation Success Rate	The % of the time that Contractor installs service and obtains acceptance by the Government, within the scheduled completion date of installation. The installation includes CPE, local access circuit and service activation. The period measured is to the end of the scheduled technician visit.	The Contractor shall maintain documentation showing the dates of scheduled site installations as well as the dates of effective acceptance of those installations. QAEs can report these records in a spreadsheet such as the one in Appendix A. Recommended Method: 100% Inspection	The contractor shall maintain ≥ 80% scheduled installation success rate for 10 or less installations per month. The contractor shall maintain ≥ 90% scheduled installation success rate for greater than 10 installations per month.	For 10 or less installations/month Meets: ≥ 80% Unsat: < 80% For > 10 installations/month Meets: ≥ 90% Unsat: < 90%

Table 1: Monthly Scorecard Performance Measures (Cont.)

Performance Measure	Definition and/or Calculation	Measurement Instructions	SLA	Threshold
Invoice Error Rate	The % of site invoices that the Contractor submits without errors.	The Contractor shall maintain documentation showing the amounts invoiced each month, as well as the eventually approved and paid invoices. QAEs can report these records in a spreadsheet such as the one in Appendix A. Recommended Method: 100% Inspection	The Contractor shall invoice the Government for the correct charges on at least 98% of invoices.	Meets: ≥ 98% of invoices Unsat: < 98% of invoices
Internet Access Service Availability	The % of time that the Contractor maintains connectivity between each TCE CPE-configured logical or physical circuit and the Internet.	The Contractor shall maintain documentation from the automated 1500 byte 'Ping' script, showing service interruptions each month. QAEs can report these records in a spreadsheet such as the one in Appendix A. Recommended Method: Random Sampling, IV&V	The Contractor shall maintain monthly Internet access service to the Government at 99.999% availability.	Meets: ≥ 99.999% Unsat: < 99.999%
Mean Time to Repair (MTTR)	The % of time the Contractor completes repairs within the designated 4-hour deadline (calculated from inception of a trouble ticket to its closure).	The Contractor shall maintain documentation from Contractor Automated Trouble Ticket Reporting. QAEs can report these records in a spreadsheet such as the one in Appendix A. Recommended Method: Periodic Inspections, IV&V	The Contractor shall resolve trouble tickets for any site service outage at: Cat.1 Sites: ≤ 4 hrs - ≥ 90% of time for ≤ 20 calls/m - ≥ 95% of time for > 20 calls/m Cat. 2 Sites: ≤ 4 hrs - ≥ 85% of time for ≤ 20 calls/m - ≥ 90% of time for > 20 calls/m Cat. 3 Sites: ≤ 4 hrs - ≥ 80% of time for ≤ 20 calls/m - ≥ 85% of time for > 20 calls/m	For ≤ 20 Calls/Month Meets: Cat.-1 ≥ 90%, Cat.-2 ≥ 85%, Cat.-3 ≥ 80% Unsat: Cat.-1 < 90%, Cat.-2 < 85%, Cat.-3 < 80% For > 20 Calls/Month Meets: Cat.-1 ≥ 95%, Cat.-2 ≥ 90%, Cat.-3 ≥ 85% Unsat: Cat.-1 < 95%, Cat.-2 < 90%, Cat.-3 < 85%
Internet Access Latency	The % of time that the Contractor maintains a monthly average roundtrip delay of, at most, 150 milliseconds, for random packets from TCE site CPEs to the Internet.	The Contractor shall maintain documentation from the automated 1500 byte 'Ping' script, showing the latency each month. QAEs can report these records in a spreadsheet such as the one in Appendix A. Recommended Method: Random Sampling, IV&V	The Contractor shall maintain internet access service to the Government at a latency of no greater than 150 ms, at least 98% of the time.	Meets: ≤ 150 ms, 98% of the time Unsat: not ≤ 150 ms, 98% of the time

Table 1: Monthly Scorecard Performance Measures (Cont.)

Performance Measure	Definition and/or Calculation	Measurement Instructions	SLA	Threshold
Help Desk Call Answer Time	The % of time that the help desk answers trouble calls within 60 seconds.	The Contractor shall print out and maintain reports from Contractor Automated Trouble Ticket Reporting. QAEs can report these records in a spreadsheet such as the one in Appendix A. Recommended Method: Random Sampling, Periodic Inspection	Help Desk personnel shall answer trouble calls within 60 seconds, 80% of the time.	Meets: ≥ 80% answered in 60 seconds or less Unsat: < 80% answered in 60 seconds or less
Transition Outages	The # of service interruptions to WAN services during business hours, during site cutover.	The Contractor shall maintain documentation showing the dates of TCE site installations for that month, the dates of effective acceptance of those installations, and the first time an outage occurs during installation. QAEs can report these records in a spreadsheet such as the one in Appendix A. Recommended Method: 100% Inspection, IV&V	The Contractor shall ensure that there will be no service interruption for any WAN services during business hours of transition and cutover of a site. (Business hours are from 7 a.m. – 7 p.m., Mon-Fri.)	Meets: No service outages Unsat: Service outage occurs
Transition Schedule Adherence	The # of deviations from Transition Plan sequence and schedule.	The Contractor shall maintain documentation showing the dates of scheduled site installations for the respective month, and any schedule deviations or missed intervals for an installation. QAEs can report these records in a spreadsheet such as the one in Appendix A. Recommended Method: 100% Inspection, IV&V	The Contractor shall transition site in accordance with the transition plan sequence and schedule.	Meets: Within schedule Unsat: Slippage of 1 or more days

Table 1: Monthly Scorecard Performance Measures (Cont.)

<table>
<tr><th>Performance Measure</th><th>Definition and/or Calculation</th><th>Measurement Instructions to QAEs</th><th>SLA</th><th>Threshold</th></tr>
<tr>
<td>Network Service Availability</td>
<td>The % of time that the Contractor maintains connectivity over all configured logical and physical circuits at each TCE site.</td>
<td>The Contractor shall maintain documentation from the Contractors Automated Network Reporting detailing outages each month. QAEs can report these records in a spreadsheet such as the one in Appendix A. QAEs can conduct audit verification and validation of the Network reports at the Government's discretion.

Recommended Method: Random Sampling, IV&V</td>
<td>The Contractor shall maintain average monthly network availability per site as follows:

Category-1 Sites: ≥ 99.99%
Category-2 Sites: ≥ 99.9%
Category-3 Sites: ≥ 99.0%</td>
<td>
<table>
<tr><th></th><th>Cat.-1</th><th>Cat.-2</th><th>Cat.-3</th></tr>
<tr><td>Exceeds:</td><td>≥ 99.999%</td><td>≥ 99.99%</td><td>≥ 99.9%</td></tr>
<tr><td>Meets:</td><td>≥ 99.99%</td><td>≥ 99.9%</td><td>≥ 99.0%</td></tr>
<tr><td>Unsat:</td><td>< 99.99%</td><td>< 99.9%</td><td>< 99.0%</td></tr>
</table>
</td>
</tr>
<tr>
<td>Class of Service (CoS)</td>
<td>Latency: The average roundtrip delay for packets to and from CPE at TCE sites with the same or better CoS.

Jitter: The average variance in roundtrip delay for packets to and from CPE at TCE sites of the same or better CoS.

Packet loss: The % of correctly formed data packets that are delivered to TCE site CPE for transmission over the Contractors managed services network, and which are then either lost or not delivered error free to the CPE of the destination site of a same or better CoS, or the Internet gateway.</td>
<td>The Contractor shall maintain documentation showing results from a randomly generated automated 1500 byte 'Ping' script, to assess the latency, jitter, and packet loss. QAEs can report these records in a spreadsheet such as the one in Appendix A.

Recommended Method: Random Sampling, IV&V</td>
<td>The Contractor shall provide the following Classes of Service between Government sites:
<table>
<tr><th></th><th>Latency</th><th>Jitter</th><th>Pkt. Loss</th></tr>
<tr><td>CoS1</td><td>≤125ms</td><td>≤25ms</td><td>≤0.1%</td></tr>
<tr><td>CoS2</td><td>≤175ms</td><td>≤35ms</td><td>≤1 %</td></tr>
<tr><td>CoS3</td><td>≤250ms</td><td>≤45ms</td><td>≤2%</td></tr>
</table>
* Based on 1000 pings (1500 Byte) sent out at the top of the hour from each site CPE to the CPE of a set of predefined sites and the Internet gateway's perimeter router. The set of sites will change every quarter and the new set of sites will be assigned during the quarterly SLA meetings.</td>
<td>
<u>LATENCY:</u>
<table>
<tr><th></th><th>CoS-1</th><th>CoS-2</th><th>CoS-3</th></tr>
<tr><td>Exceeds:</td><td>≤ 110 ms</td><td>≤ 150 ms</td><td>≤ 225ms</td></tr>
<tr><td>Meets:</td><td>≤ 125 ms</td><td>≤ 175 ms</td><td>≤ 250 ms</td></tr>
<tr><td>Unsat:</td><td>> 125 ms</td><td>> 175 ms</td><td>> 250 ms</td></tr>
</table>
<u>JITTER:</u>
<table>
<tr><th></th><th>CoS-1</th><th>CoS-2</th><th>CoS-3</th></tr>
<tr><td>Exceeds:</td><td>≤ 20 ms</td><td>≤ 30 ms</td><td>≤ 40 ms</td></tr>
<tr><td>Meets:</td><td>≤ 25 ms</td><td>≤ 35 ms</td><td>≤ 45 ms</td></tr>
<tr><td>Unsat:</td><td>> 25 ms</td><td>> 35 ms</td><td>> 45 ms</td></tr>
</table>
<u>PACKET LOSS:</u>
<table>
<tr><th></th><th>CoS-1</th><th>CoS-2</th><th>CoS-3</th></tr>
<tr><td>Exceeds:</td><td>≤ 0.01%</td><td>≤ 0.5%</td><td>≤ 1.0%</td></tr>
<tr><td>Meets:</td><td>≤ 0.1%</td><td>≤ 1.0%</td><td>≤ 2 %</td></tr>
<tr><td>Unsat</td><td>> 0.1%</td><td>> 1.0%</td><td>> 2.0%</td></tr>
</table>
</td>
</tr>
</table>

3.2 Annual Scorecard

The Annual Scorecard comprises two components: a 12-month average of the scores from the Monthly Scorecards and the results of a performance survey completed by Bureau DARs from all sites receiving managed services under the TCE Contract.

3.2.1 Annual Average of Monthly Scorecards

The first component of the Annual Scorecard is the annual average for the TCE monthly scorecards. The TCE monthly scorecard is the monthly average (weighted by the monthly recurring charges on the invoice) of all the sites receiving scorecards. The TCE annual scorecard is the average of each of the TCE monthly scorecards (also weighted by the monthly recurring charges).

3.2.2 Annual Performance Survey

The second component of the Annual Scorecard is the results of the performance survey. Table 2 identifies the list of performance measures reflected on the annual survey that will be distributed to Bureau DARs. The core questions are objective performance measures that are designed to represent overall performance and assist in gauging customer satisfaction.

Each Bureau DAR will be responsible for issuing, coordinating, collecting, and reporting the performance questions within their own Bureau, in accordance with guidance from the TCE Program Management Office. The Program Management Office will incorporate the results from each Bureau into a TCE-wide score, and also incorporate the TCE-wide survey score into the Annual Balanced Scorecard.

Table 2: Annual Scorecard Performance Measures

Performance Measure	Definition and/or Calculation	Measurement Instructions	SLA	Expectation
Order Confirmation Time	The # of business days between electronic submission of an order for service by a POC and receipt of final price quote by the Government. The definition includes receipt date.	Government QAEs should maintain written service orders and final price quotes for that month. QAEs can report these records in a spreadsheet like the one provided in Appendix B. Recommended Method: Periodic Inspections, Surveys	The Contractor shall confirm order and provide final price quote within 2 days of order receipt notification.	Exceeds: < 2 business days Meets: = 2 business days Unsat: > 2 business days
Circuit Disconnect Confirmation	The % of time that the Contractor issues user-designated confirmation of circuit disconnection to POC (default is email) within 2 business days. The definition includes receipt date only.	Government QAEs should maintain system reports of disconnects as well as written confirmations from the Contractor. QAEs can report these records in a spreadsheet like the one provided in Appendix B. Recommended Method: 100% Inspection, Surveys	The Contractor shall provide a confirmation of circuit disconnect within 2 days, 98% of the time.	Meets: ≥ 98% of the time Unsat: < 98% of the time
Ordering Database Accuracy	The % of records in the ordering database not found to have errors.	Government QAEs should notify the Contractor in writing of the error and maintain a record of the written notification. QAEs can report these records in a spreadsheet like the one provided in Appendix B. Recommended Method: Random Sampling, Surveys	The Contractor shall ensure that 99% of records in ordering database are without errors.	Exceeds: = 100% without errors Meets: ≥ 99% without errors Unsat: < 99% without errors
Invoice Timeliness	The % of complete and correct invoices that are made available to the Government by the due date. The invoice due date comes from the successful Offeror's proposal, established at Contract Award.	QAEs should retain a record of when the invoices were actually due, and through inspection (from on-line invoices), when they are first made available to the Government. QAEs can report these records in a spreadsheet like the one provided in Appendix B. Recommended Method: 100% Inspection, Surveys	All invoices (100%) shall be made available to the Government on the due day of each month or on the next business day if the due date is a Federal holiday.	Meets: = 100% Unsat: < 100%

Table 2: Annual Scorecard Performance Measures (cont.)

Performance Measure	Definition and/or Calculation	Measurement Instructions	SLA	Expectation
Service Disconnection Time	The % of services for which the Contractor discontinues billing within one cycle after the cycle in which the disconnection request is received.	QAEs should retain records of POC requests for disconnections to services, and through inspection (from on-line invoices), when the associated billing to the Government is discontinued. QAEs can report these records in a spreadsheet like the one provided in Appendix B. Recommended Method: 100% Inspection, Surveys	The Contractor shall discontinue billing for all disconnected services within one billing cycle after receiving the service disconnection requests. In the event that the Contractor continues to bill the Government for a service more than one cycle after disconnect request, the Contractor shall credit the excess charges plus an interest penalty calculated with formulas in the Prompt Payment Act.	Meets: = 100% discontinued billing Unsat: < 100 % discontinued billing
Invoice Error Resolution Time	The % of invoice errors reported to the Contractor that are resolved within one billing cycle.	QAEs should retain records of POC notifications of invoice errors, and through inspection (from on-line invoices), when the associated invoice is corrected. QAEs can maintain and report these records in a spreadsheet like the one provided in Appendix B. Recommended Method: 100% Inspection, Surveys	The Contractor shall resolve all invoice errors (100%) within one billing cycle.	Meets: = 100% Unsat: < 100%
Report Deadlines	The % of required reports that are made available to the Government by the scheduled due date.	QAEs should retain records of report due dates and report availability dates (through inspection). QAEs can report these records in a spreadsheet like the one provided in Appendix B. Recommended Method: 100% Inspection, Surveys	The Contractor shall submit: • In-progress reports, trouble status reports, and SLA performance reports: By the first business day of month • Capacity status report: By the first business day of every alternate month	Meets: = 100% of reports on time Unsat: < 100% of reports on time
Monthly SLA Reporting Accuracy	The # of independent errors in monthly SLA reports.	QAEs should maintain records if errors are found in SLA reports each month. QAEs can report these records in a spreadsheet like the one provided in Appendix B. Recommended Method: Random Sampling, Surveys	The Contractor shall maintain zero errors in monthly SLA reporting.	Meets: Zero errors in monthly reports Unsat: 1 or more errors in monthly reports

Table 2: Annual Scorecard Performance Measures (cont.)

Performance Measure	Definition and/or Calculation	Measurement Instructions	SLA	Expectation
Security Control Compliance	The % of individual security controls whose requirements, on a simple pass/fail basis, meet each of the stated control objectives, as defined by the client organization's documented baseline security requirements matrix and provided by the COTR.	The IV&V Contractor shall conduct ongoing security tests and evaluations against COTR-defined requirements, and will report biannually to verify compliance. QAEs can maintain and report the periodic assessment of compliance by the independent IV&V Contractor in a spreadsheet like the one provided in Appendix B. Recommended Method: Periodic Inspection, Surveys	The Contractor shall ensure that 75% of all TCE security controls comply satisfactorily with stated objectives (including NIST 800 series and TDP 85-01), prior to the biannual compliance verification.	Exceeds: > 90% compliant Meets: ≥ 75% compliant Unsat: < 75% compliant
Security Patch Implementation Timeliness	The % of the time that the Contractor implements security patches within 36 hours of issuance by the manufacturer.	QAEs should coordinate with the independent third party tester to monitor FedCIRC and CERT/CC advisory for applicable patches, implementation due dates, and testing. Recommended Method: 100% Inspection, Surveys	The Contractor shall implement 100% of security patches within 36 hours of publication on the FedCIRC or CERT/CC advisory websites.	Exceeds: 100% of Patches implemented within 24 hours Meets: 100% of Patches implemented within 36 hours Unsat: Less than 100% of Patches implemented after 36 hours
Security Intrusion Detections	The % of the time that the Contractor detects simulated attacks on vulnerabilities as identified by FedCIRC and CERT/CC after the 36-hour window allowed for patch implementation. ('Intrusion' = 'incident' as defined by FedCIRC on http://www.fedcirc.gov.)	QAEs should match Contractor reporting with results of intrusion simulation testing by independent third party. QAEs can record results in a spreadsheet like the one provided in Appendix B. Recommended Method: IV&V, Surveys	The Contractor shall detect 100% of simulated intrusion attacks.	Meets: 100% of attacks detected Unsat: Less than 100% of attacks detected
Denial of Service (DOS) Detections	The % of the time that the Contractor detects simulated Denial of Service (DOS) attacks.	QAEs should match Contractor reporting with results of denial of service simulation testing by independent third party. QAEs can record results in a spreadsheet like the one provided in Appendix B. Recommended Method: IV&V Surveys	The Contractor shall detect 100% of simulated DOS attacks.	Meets: 100% of attacks detected Unsat: Less than 100% of attacks detected

Table 2: Annual Scorecard Performance Measures (cont.)

Performance Measure	Definition and/or Calculation	Measurement Instructions	SLA	Expectation
Network Configuration Changes Response Time	The # of hours or calendar days required to complete requested configuration changes. The 'clock starts' when the request is received and continues up to the moment the Government deems that the change was 'effective'. Thus a change received at 8 a.m. on day one and deemed effective at 4:30 p.m. on day two is measured to be 32.5 hours but constitutes only one calendar day.	QAEs should retain records of dates of requested configuration changes and implementations. QAEs can record and report these records in a spreadsheet like the one provided in Appendix B. Recommended Method: 100% Inspection, Surveys	The Contractor shall carry out requested configuration changes within the following timeframes: Soft/logical changes (during emergencies): within 12 hrs. Soft/logical changes (during non-emergencies): within 14 days. Network hardware changes (during emergencies): within 24 hrs. Network hardware changes (during non-emergencies): within 14 days.	<table><tr><th></th><th>Soft/Logical (Emerg.)</th><th>Soft/Logical (Non-Emerg.)</th></tr><tr><td>Exceeds:</td><td>< 4 hrs</td><td>< 7 days</td></tr><tr><td>Meets:</td><td>4-12 hrs</td><td>7-14 days</td></tr><tr><td>Unsat:</td><td>> 12hrs</td><td>> 14 days</td></tr></table><table><tr><th></th><th>Hardware (Emerg.)</th><th>Hardware (Non-Emerg.)</th></tr><tr><td>Exceeds:</td><td>< 12 hrs</td><td>< 7days</td></tr><tr><td>Meets:</td><td>24 hrs</td><td>7-14 days</td></tr><tr><td>Unsat:</td><td>> 24 hrs</td><td>> 14 days</td></tr></table>
Site Visit Coordination	The % of the time the Contractor provides at least 5 days' advance notice for site visits. The 'clock starts' the day notification is received, and arrival on the fifth day is considered 5 days' notice.	QAEs should record the dates of formal notifications and actual site visits. QAEs can record and report these records in a spreadsheet like the one provided in Appendix B. Recommended Method: 100% Inspection, Surveys	The Contractor shall provide the site POC at least 5 days' advance notice of all site visits.	Meets: Provide 5 days' notice for all site visits. Unsat: Did not provide 5 days' advance notice for all site visits.

4 Quality Assurance Surveillance Process

Daily quality assurance activities should include gathering documentation, reporting data in spreadsheet tools, verifying calculations, and maintaining contract documentation to provide an audit trail.

4.1 Gather Documentation

Throughout each period of reporting, which is usually a calendar month, QAEs should gather documents from a variety of automated and manual sources. The most significant data will be items such as transition schedules, Government acceptance of cutover, and reported outages. Following transition or implementation, and during the early months of ongoing operations, QAEs should prepare to collect a much larger range of documentation.

QAEs should print or gather copies of all relevant documents as needed, particularly if they are not maintained elsewhere in electronic format. As the Contractor reporting system becomes a reliably accurate substitute, QAEs should consider reducing or discontinuing selected documentation activities, particularly those that are burdensome or resource-intensive.

4.2 Record Data

QAEs should record the results of all inspections as these records add important visibility and credibility to the contract administration process. Appendices A and B have been designed specifically to accommodate and guide data recording activities. In most cases they will also calculate the actual performance measure automatically. These methods are not the only way to record data or verify performance measure calculations. QAEs are given discretion in improving or even replacing these mechanisms with more suitable tools.

4.3 Conduct Surveillance Inspections

The Government needs to verify Contractor reporting of performance measurements early in the contract to validate reporting methodology. QAEs are the primary Government agents responsible for this task. Surveillance inspections are activities associated with verifying that the performance reported by the Contractor is accurate. Wherever there is uncertainty, QAEs should conduct inspections by observing activities or calculations to verify items included in the performance measure calculation, reported by the Contractor, or by conducting audits of the paper trail related to those activities. QAEs should conduct such inspections for performance measures, SLAs, and balanced scorecards.

During the early phases of contract administration, the purpose of QAE inspection is to validate the accuracy and reliability of the Contractors automated reporting. Later, and to the degree that the Contractor reporting is found to be reliable, many of the performance measure inspections can be reduced or even eliminated.

4.3.1 Inspect 100% of Infrequent Contractor Activities

Although it can be expensive to inspect 100% of frequently occurring activities, it is the most thorough inspection schedule. Surveillance based on 100% inspection of Contractor performance is considered more appropriate for less frequent activities, and for more stringent performance requirements. QAEs should try to implement 100% inspections as recommended in this QASP, and wherever resources allow.

4.3.2 Use 'Effectively Random' Rather Than 'True Random' Sampling

Because individual performance measures may require measuring and recording many events, it may not be practical to measure them all. QAEs should randomly select events for performance measures that are part of the Contractors calculation and inspect them.

'True random sampling' works best when the number of instances of the activities being performed is very large and a statistically valid 'random' sample can be obtained. This inspection method allows for statistically valid quantitative inferences to be made about the overall performance from relatively few inspections. However, the methodology for conducting 'true random sampling' is quite stringent, and includes a requirement that each and every activity has an equal chance of being selected for inspection, as well as a requirement that a statistically valid sample be obtained.

It is important for validating the Contractor measurement and reporting system, that the QAE process of selecting events for verification (where they will inspect less than 100% of activities) be 'effectively random'. In order for inspections to be effectively random, it requires that the Contractor be unable to reliably predict which activities or measures the QAEs will or will not inspect on any given day, or at any given time. QAEs are advised to conduct inspections on a schedule that is sufficiently unpredictable as to be 'effectively random', at least to the Contractor. As long as QAEs conduct inspections in a manner that is reasonably consistent with this principle, they may use their judgment to flexibly conduct inspections.

4.3.3 Use Periodic Inspection for Appropriate Activities

Periodic inspection, sometimes called 'planned sampling', consists of inspection of activities at regular intervals. The Periodic inspection surveillance schedule enables QAEs to inspect Contractor activities at intervals consistent with the work being performed, deliverable due dates, major milestones and critical paths, and/or scheduled reports. Network availability, for example, might reasonably be inspected during peak capacity utilization times, which probably occur regularly during specific business hours.

QAEs are advised use caution with this particular method of surveillance. It should only be used for activities that the Contractor cannot manipulate to unfairly represent their overall performance. If, for example, QAEs use periodic inspection to assess Help Desk Call Answer Time, and the Contractor becomes aware of it, they could schedule more staff during those inspection periods. In this way they appear to raise performance while actually reducing quality during times that activities are not inspected.

4.3.4 Leverage Resources Using Independent Validation and Verification (IV&V)

The primary value of IV&V is that it can provide for an inspection agent who is a neutral third party. This provides for the least amount of potential bias in an inspection process and should be used, if needed, to mitigate subjectivity and controversy. IV&V can also be used to efficiently leverage existing resources for non-regular monitoring and inspection activities without increasing the staffing levels for the contract administration function. QAEs should ensure that IV&V tasks utilize the appropriate cycle of surveillance just as if the Government were conducting the inspection.

4.3.5 Coordinate Customer Input (Surveys)

QAEs and Bureau DARs should coordinate the issuing of the TCE Annual Customer Survey questions to appropriate site points of contact (POC). QAEs should provide the surveys as part of the site installation process to allow POCs to plan for the survey collection process. This will allow QAEs, DARs, or Bureau site personnel to assess and even record aspects of Contractor performance

throughout the performance period rather than trying to 'recollect' after the fact. QAEs should also provide guidelines to site POCs to maximize consistency of the interview and data collection process.

4.4 Maintain Documentation

Because there is a time lag between the actual service performance, the reporting of that performance, and the subsequent invoicing for the service, QAEs should maintain sufficient documentation to provide an audit trail for all events affecting the performance measures, SLAs, or other contractual parameters.

In principle, QAEs should maintain sufficient documentation to demonstrate to the Contractor any and all performance measure calculations or adjustments that the Government recommends, and to provide opportunity for the Contractor to review the audit trail. It is anticipated that documentation for the monthly and annual scorecard performance measures could be needed for at least a month after the period for which it is used. However, if storage is not a significant issue, QAEs should consider maintaining all documentation in a 'contract file' for the duration of the contract.

Attachment A – Terms

The list below defines, for the purposes of this document, some of the key terms used in the QASP.

Audit
An audit is an independent examination of work product(s) or services to assess compliance with specifications, standards, customer requirements, or other criteria.

Audit Trail
Written documentation providing historical evidence of the transaction detail and its origins.

Balanced Scorecard
A mechanism for assigning relative weights to multiple performance measures, and aggregating them into one summary index of performance.

The Computer Emergency Response Team/ Coordination Center
Part of the Software Engineering Institute. The Software Engineering Institute is operated by Carnegie Mellon University for the Department of Defense under contract F19628-95-C-0003. CERT and CERT/CC are registered trademarks of Carnegie Mellon University. For more information, see http://www.cert.org/.

Cutover Acceptance
The recognition by the Government that the Contractor has met all of the requirements necessary to transition a site to TCE and may begin billing for those services under the contract.

The Federal Computer Incident Response Center
Part of National Cyber Security Division (NCSD) under the Information Analysis and Infrastructure Protection Directorate, within the Department of Homeland Security. For more information, see http://www.fedcirc.gov/.

Inspection
An activity performed by a QAE to assess, measure, or verify, some aspect of a specific service or its quality.

Performance Measure
An attribute of the work (or service) that reflects how well it is performed (or provided).

Quality Assurance Evaluator
A Government employee whose job description includes activities related to the inspection, validation, and verification of service(s) provided by the Contractor, and its performance in doing so.

Security Incident
An act violating an explicit or implied security policy. Its definition may include any attempt (either failed or successful) to gain unauthorized access to a system or its data.

Security Intrusion
Any unauthorized access to a system or its data, and any changes to system hardware, firmware, or software characteristics without the owner's knowledge, instruction, or consent.